

## CLAIMS

1. A method of channel resource allocation in a communications system, the method characterized in that the communications system uses one or more switched channels, switching between rates or channels of different characteristics and that one or more data transmissions to or from a data provider are investigated or sniffed for information related to data object size.
2. The method according to claim 1 characterized in that radio resource allocation is based upon the information related to data object size.
3. The method according to claim 2 characterized in that resource allocation comprises selection of one or more channels or channel characteristics.
4. The method according to any of claims 1-3 characterized in that the one or more data transmissions are sniffed or investigated in application-level data packets.
5. The method according to any of claims 1-4 characterized in that the one or more data transmissions are investigated or sniffed in uplink direction.
6. The method according to any of claims 1-4 characterized in that the one or more data transmissions are investigated or sniffed in downlink direction.
7. The method according to any of claims 1-6 characterized in that radio resource management allocates resources based upon prediction from the information related to data object size.

8. The method according to claim 7 c h a r a c t e r -  
i z e d i n that resource allocation comprises selection  
of one or more channels or channel characteristics.

9. The method according to any of claims 1-8 c h a r -  
5 a c t e r i z e d i n that the channel characteristics  
include at least one of

- data rate,
- dedicated or shared usage,
- scheduling,
- 10 - modulation,
- spreading code spreading factor, and
- transmission power.

10. The method according to any of claims 1-9 c h a r -  
a c t e r i z e d i n that user or session individual  
15 data from the data provider is cached or stored prior to  
being transmitted over a switched channel.

11. The method according to any of claims 1-10 c h a r -  
a c t e r i z e d i n that prediction for resource allo-  
cation of a switched channel is based on content of cached  
20 or stored data.

12. The method according to claim 10 or 11 c h a r a c -  
t e r i z e d i n that the data is cached or stored in  
association with radio resource management.

13. The method according to any of claims 1-12 c h a r -  
25 a c t e r i z e d i n that data from the data provider is  
positively or negatively acknowledged towards the data pro-  
vider and forwarded for transmission over a switched chan-  
nel.

14. The method according to any of claims 1-13 c h a r -  
a c t e r i z e d i n that resource allocation prediction  
of a switched channel is based on amount of acknowledged  
data.

5 15. The method according to any of claims 1-14 c h a r -  
a c t e r i z e d i n that resource allocation prediction  
is performed for a connection to be established.

16. The method according to any of claims 1-14 c h a r -  
a c t e r i z e d i n that resource allocation prediction  
10 is performed for an established connection.

17. The method according to any of claims 1-16 c h a r -  
a c t e r i z e d i n that it reduces at least one of de-  
lay and latency, as perceived by a data receiver at the  
destination.

15 18. The method according to any of claims 1-16 c h a r -  
a c t e r i z e d i n that it reduces at least one of de-  
lay and latency, as perceived by a data provider.

19. The method according to any of claims 1-16 c h a r -  
a c t e r i z e d i n that it reduces at least one of de-  
20 lay and latency, as perceived by a congestion control algo-  
rithm.

20. The method according to any of claims 1-19 c h a r -  
a c t e r i z e d i n that individual user need of chan-  
nel resources is predicted from the object size related in-  
25 formation.

21. The method according to any of claims 1-19 c h a r -  
a c t e r i z e d i n that future need of channel re-  
sources is retrieved from the object size related informa-  
tion before the need appears.

22. The method according to any of claims 1-19 c h a r -  
a c t e r i z e d i n that the channel resources are  
channel resources required to transmit data packets of the  
object of said data object size.

5 23. An element for channel resource allocation in a commu-  
nications system using switched channels, switching between  
rates or channels of different characteristics, the element  
c h a r a c t e r i z e d b y one or more processing en-  
tities for investigating or sniffing one or more data  
10 transmissions to or from a data provider, for information  
related to data object size.

24. The element according to claim 23 c h a r a c t e r -  
i z e d b y circuitry for transferring the information  
related to data object size to radio resource management.

15 25. The element according to claim 23 or 24 c h a r a c -  
t e r i z e d b y one or more processing entities for al-  
locating radio resources based upon the information related  
to data object size.

20 26. The element according to claim 25 c h a r a c t e r -  
i z e d i n that resource allocation comprises selection  
of one or more channels or channel characteristics.

27. The element according to any of claims 23-26  
c h a r a c t e r i z e d b y a radio resource management  
entity for resource allocation based upon prediction from  
25 the information related to data object size.

28. The element according to any of claims 23-27  
c h a r a c t e r i z e d b y one or more processing en-  
tities for sniffing or investigating data transmissions in  
application-level data packets.

29. The element according to any of claims 23-28 characterized in that the one or more data transmissions are investigated or sniffed in uplink direction.

5 30. The element according to any of claims 23-28 characterized in that the one or more data transmissions are investigated or sniffed in downlink direction.

10 31. The element according to any of claims 23-30 characterized in that the channel characteristics include at least one of

- data rate,
- dedicated or shared usage,
- scheduling,
- 15 - modulation,
- spreading code spreading factor, and
- transmission power.

20 32. The element according to any of claims 23-31 characterized by one or more memory or storage devices for caching or storing user or session individual data from the data provider prior to being transmitted over the switched channel.

25 33. The element according to any of claims 23-32 characterized by one or more processing entities for resource allocation prediction of a switched channel based on content of cached or stored data.

34. The element according to claim 32 or 33 characterized by one or more memory or storage devices

being arranged in association with radio resource management.

35. The element according to claim 32 or 33 characterized by one or more memory or storage devices  
5 being arranged in association with the one or more processing entities for investigating or sniffing one or more data requests.

36. The element according to any of claims 23-35 characterized by one or more processing entities  
10 for positively or negatively acknowledging data from the data provider to be forwarded for transmission over a switched channel.

37. The element according to any of claims 23-36 characterized in that resource allocation  
15 prediction of a switched channel is based on amount of acknowledged data.

38. The element according to any of claims 23-37 characterized in that resource allocation prediction is performed for a connection to be established.

20 39. The element according to any of claims 23-37 characterized in that resource allocation prediction is performed for an established connection.

40. The element according to any of claims 23-39 characterized in that it reduces at least  
25 one of delay and latency, as perceived at a destination data receiver.

41. The element according to any of claims 23-39 characterized in that it reduces at least one of delay and latency, as perceived at a data provider.

42. The element according to any of claims 23-39 characterized in that it reduces at least one of delay and latency, as perceived by a congestion control algorithm.

5 43. The element according to any of claims 23-42 characterized in that the element is included in or connected to user equipment.

44. The element according to any of claims 23-42 characterized in that the element is connected to or included in a radio network controller.

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45. The element according to any of claims 23-44 characterized by one or more processing entities for predicting individual user need of channel resources from the object size related information.

15 46. The element according to any of claims 23-44 characterized by one or more processing entities for retrieving future need of channel resources from the object size related information before the need appears.

20 47. The element according to any of claims 23-44 characterized in that the channel resources are channel resources required to transmit data packets of the object of said data object size.

48. A radio communications system characterized by means for carrying out the method in any of claims 1-22.

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49. A radio communications system characterized by a plurality of elements according to any of claims 23-47.